

Beebots in Kindergarten

This is a lesson plan that builds on itself in your classroom. It starts with the exploration that follows the science and engineering practices, and then builds from there into other math or science standards as you see fit.

Lesson 1: Start with a whole group observation lesson. Show the students the BeeBot and ask the students what they observe. Make observations, ask questions and share what is seen. Then ask the students to share what they think will happen when we push the buttons. Test it just like a scientist and then see what happens. As you watch and observe, you can make more hypotheses about what the robot could do. How can it get from one place to another by moving forward, and if it needs to go to the side or change directions how can you make it work? After you have discussed and tested the ideas shared, then move to lesson 2.

Lesson 2: Sort the students into 6 groups. There will be 6 BeeBot stations with the bots and mats set up for students to explore around the room. Then have an exploration time of about 10-15 minutes to let each group work together to see what they can learn about the BeeBots, and see if they can find out how they move and how to make it get to a desired location. This is a good time to remind them that they should work together and use their ideas to share thoughts and ideas of programming and algorithms with how to get the BeeBot to work, and how to make it move around. During the exploration go from group to group to see how they are doing and to ask questions about what they have tried, what they have figured out and how they have worked together as a team.

Lesson 3: Students will be asked to see if they can figure out what kind of motions the BeeBot uses when trying to get from point a to point b. We will talk about their programming and algorithms used when using their BeeBot. You can also discuss if there were any problems and how to find ways to fix them. They will use algorithm cards to show their work and explain their thinking in a visual and oral way. If you have not used the algorithm cards, now is a great time to integrate them.

Lesson 4: Integrate a math standard. The first one I use is for one to one counting, where the students pull out a card and have to count how many squares it would take to get the BeeBot there. Each student would have a turn to pull out a card, create the algorithm and see if their algorithm worked to follow the amount of spaces they need to move. You can also use this for other math standards as well. The great thing about the beebots is that you can integrate any math standard into the mats. I used my beebots most recently for decomposing teen numbers and put decomposed teen numbers on the mat and asked students to see if they could use their knowledge to get the beebot to a specific spot on the mat. It wasn't boring because it was hands-on and the students wanted to see if they could program the bot to get it to the correct place.

The lessons after this point would be integrating different standards to show the students knowledge of different standards in an engaging way and working together to show their knowledge and thinking. Good luck!